

Appl. No. 10/008,633
Amdt. Dated May 28, 2004
Reply to Office Action of April 9, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. – 14. (cancelled)

15. (previously presented) A method comprising:

contacting an object with a cleaning liquid while the cleaning liquid is in the state of a two-phase solution, thereby removing contaminants from the object, the cleaning liquid comprising water and an organic component in amounts that are: (i) not fully miscible under a first set of conditions, in which the two-phase solution is formed, and (ii) fully miscible under a second set of conditions, in which a homogeneous, one-phase solution is formed,

changing the state of the cleaning liquid from the two-phase solution into the homogeneous, one-phase solution by application of the second set of conditions, and

removing contaminants from the cleaning liquid while the cleaning liquid is in the state of the homogeneous, one-phase solution.

16. (previously presented) A method as in claim 15, wherein the organic component comprises lipophilic and hydrophilic groups.

17. (previously presented) A method as in claim 15, wherein the two-phase solution comprises organic-rich droplets dispersed in a continuous aqueous phase.

18. (previously presented) A method as in claim 15, wherein the first set of conditions comprises subjecting the cleaning liquid to a first temperature, the second

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set of conditions comprises subjecting the cleaning liquid to a second temperature and the first temperature is higher than the second temperature.

19. (previously presented) A method as in claim 15, wherein the step of removing contaminants from the cleaning liquid comprises filtering the cleaning liquid.

20. (previously presented) A method as in claim 15, wherein the organic component comprises less than about 35% of the cleaning liquid.

21. (previously presented) A method as in claim 15, wherein the organic component comprises between about 3-25% of the cleaning liquid.

22. (previously presented) A method as in claim 15, wherein the organic component comprises a glycol ether.

23. (previously presented) A method as in claim 15, wherein the organic component comprises lipophilic and hydrophilic groups, the two-phase solution comprises organic-rich droplets dispersed in a continuous aqueous phase and the organic component comprises less than about 35% of the cleaning liquid.

24. (previously presented) A method as in claim 23, wherein the first condition comprises subjecting the cleaning liquid to a first temperature, the second condition comprises subjecting the cleaning liquid to a second temperature and the first temperature is higher than the second temperature.

25. (previously presented) A method as in claim 24, wherein the step of removing contaminants from the cleaning liquid comprises filtering the cleaning liquid.

26. (previously presented) A method as in claim 25, wherein the organic component comprises a glycol ether.

27. (currently amended) A method comprising:

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subjecting a cleaning liquid to a first set of conditions, wherein the cleaning liquid is brought into a state of a two-phase emulsion, the cleaning liquid comprising water and an organic component having lipophilic and hydrophilic groups, the amounts of the water and the organic component being selected so that the cleaning liquid forms: (i) the two-phase emulsion under the first set of conditions and (ii) a homogeneous, one-phase solution under a second set of conditions, the first and second sets of conditions including at least one of pressure, and temperature and agitation,

contacting an object with the two-phase emulsion, thereby removing contaminants from the object while the cleaning liquid is in the state of the two-phase emulsion, wherein the object is selected from the group consisting of metals, glasses, ceramics, plastics, electric components and combinations thereof,

subjecting the cleaning liquid to the second set of conditions, wherein the cleaning liquid is brought into the state of the homogeneous, one-phase solution, and

removing the contaminants, which were removed from the object during the applying/cleaning step, from the cleaning liquid while the cleaning liquid is in the state of the homogenous, one-phase solution.

28. (previously presented) A method as in claim 27, wherein the step of subjecting the cleaning liquid to the second set of conditions comprises lowering the temperature of the cleaning liquid.

29. (previously presented) A method as in claim 27, wherein the two-phase emulsion comprises organic-rich droplets dispersed in a continuous aqueous phase.

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30. (previously presented) A method as in claim 27, wherein the first set of conditions comprises subjecting the cleaning liquid to a first temperature, the second set of conditions comprises subjecting the cleaning liquid to a second temperature and the first temperature is higher than the second temperature.
31. (previously presented) A method as in claim 27, wherein the organic component comprises less than about 35% of the cleaning liquid.
32. (previously presented) A method as in claim 27, wherein the organic component comprises between about 3-25% of the cleaning liquid.
33. (previously presented) A method as in claim 27, wherein the step of removing contaminants from the cleaning liquid comprises filtering the cleaning liquid.
34. (previously presented) A method as in claim 27, wherein the organic component comprises a glycol ether.